

JAPAN

EDICT OF GOVERNMENT

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JIS B 9219 (1987) (English): Standard form of specifications for circulation type grain dryers

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*The citizens of a nation must
honor the laws of the land.*

Fukuzawa Yukichi

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JAPANESE INDUSTRIAL STANDARD

**Standard Form of Specifications
for Circulation Type
Grain Dryers**

JIS B 9219—1987

Translated and Published

by

Japanese Standards Association

In the event of any doubt arising,
the original Standard in Japanese is to be final authority.

JAPANESE INDUSTRIAL STANDARD

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Standard Form of Specifications
for Circulation Type
Grain Dryers

B 9219-1987

1. Scope

This Japanese Industrial Standard specifies the standard form of specifications for circulation type grain dryers ⁽¹⁾, hereinafter referred to as the "dryers" for agricultural use and its entry gist.

Note ⁽¹⁾ The dryers mentioned in this Standard are those intended for unhulled rice and wheat which have been harvested by combines and the like.

Remark: The units given in { } in this Standard are in accordance with the conventional units and are appended for informative reference.

2. Standard Form of Specifications

The standard form of specifications shall be as follows:

- (1) The standard form of specifications shall be in accordance with Attached Table. This Attached Table gives the outline of various elements and performance of dryer.
- (2) The items to be entered can be chosen adequately according to the object. Furthermore, the structure and materials of each part shall be appended as required.
- (3) Append a drawing showing the whole of dryer to show the external form of dryer, the outline of arrangement of lift, blower (including that of suction type), operation board and the like and main dimensions concerned.

3. Entry gist of Specifications

The entry gist of specifications shall be as follows:

- (1) Brand and Type Enter the brand and type symbol which have been indicated on the dryer.
- (2) Common Name Enter the common name (pet name and the like) named by the manufacturer.
- (3) Manufacturer's Name Enter manufacturer's name or manufacturing factory's name of dryer.
- (4) Grain Disposal Quantity Enter the min. and max. possible treatment quantity of unhulled rice and where necessary, append the possible treatment quantity of wheat.
Furthermore, the unit shall be ton (t), kilogram (kg) or cubic meter (m³) and where the unit is cubic meter (m³), the conversion value (kg/m³) shall be entered.

- (5) Power Required Enter the distinction of single phase and three phases of electric motor used for the dryer, the rated voltage and the rated output and append the required largest power (at the time of standard equipment and at the time of optional equipment).
- (6) Main Dimensions Enter the dimensions in the case of standard equipment in the state of operation and as required, at the time of being stored.
Furthermore, where the dimensions are changed by equipping optional parts and the like, append the purport.
- (a) Whole Length Enter the largest length and append the position of it.
- (b) Whole Width Enter the largest width and append the position of it.
- (c) Whole Height of True Machine Body Enter the height from the ground to the highest part of the body of machine and append the position of it.
- (d) Lift Height Enter the height from the ground to the highest part of lift and append the position of it.
- (7) Mass Enter the mass of standard equipment of the dryer at empty of grain.
- (8) Grain Drying Room and Circulation and Discharge
- (a) Form of Drying Room and Number of Drying Layers Enter the forms of screen, baffle, angle shape multitubular type and the like, and the number of drying layers.
- (b) Sending Method Enter concerning continuous sending and intermittent sending, and note the distinction of rotary valve, drum shatter and the like.
- (c) Circulating Speed Control and Discharging Speed Control Where the control apparatus for the circulating and discharging speeds of grain is equipped, enter that method by classifying in hand operation or automatic operation and two step change-over and stepless change-over and the like.
- (9) Blower for Drying
- (a) Type of Blower Enter the distinction of axial flow type, centrifugal type and the like.
- (b) Blast and Suction System Enter the distinction of pressuring blast and, suction and the like.
- (c) Bore of Blasting Port or Discharge Port Enter the bore of blasting port or discharging port.
- (d) Rotational Frquency of Blower Enter the rotational frequency at the using time and where variable revolutional frequency exists, append the purport.
Furthermore, where at the commercial frequency of 50 Hz and 60 Hz rotational frequencies are different, append the purport.

(10) Burner

- (a) Type Enter the distinction of pot type, gun type, revolutionary type, etc.
- (b) Ignition Method Enter the distinction of hand ignition and automatic ignition.
- (c) Air Quantity Control Enter the distinction of hand and automatic controls.
- (d) Maximum Combustion Quantity Enter the maximum combustion quantity per one hour of burner by liter (l).

(11) Fuel and Fuel Supply Apparatus

- (a) Fuel Used Enter the fuel to be used.
- (b) Supply Apparatus Enter the method to supply the fuel.
- (c) Capacity of Tank Enter the capacity of tank by liter (l).

(12) Conveyance Apparatus

- (a) Classes of Conveyers Enter the classes of lift (bucket elevator), screw conveyer, slower and the like.
- (b) Class of Grain Distribution Equalizer Where the grain distribution equalizer is equipped, enter its class.
- (c) Grain Send-in Hopper Enter the height of charging port and the size of charging port, and the capacity of hopper if possible.
Further, in the case where hoppers exist at not less than two places, append the effect.

(13) Dust Catcher Enter whether the dust catcher is used for exclusive use or for combined use.

(14) Accessories (Optional Parts) Where the optional parts such as auxiliary hopper, slower, duct, moisture meter and the like are equipped, enter their names.

(15) Drying Speed Enter the decrease rate per hour due to drying, when the maximum treating quantity has been sent in the dryer, in range.
Furthermore, the raw unhulled rice to be used shall be 24 % in moisture content (those of one percent and under in admixtures) and be average value when taking the finished moisture content as 14.5 %.

(16) Charging Time and Discharging Time

- (a) Charging Time Enter the time required for charging into the dryer the maximum treating quantity of raw unhulled rice of 24 % in moisture content (those of one percent and under in admixture).
- (b) Discharging Time Enter the time required for discharging the raw unhulled rice, which have been charged in accordance with (a) from the dryer after drying (14.5 % in finished moisture content).

- (17) Operational Control Methods If the operational control system for atmospheric temperature, hot blast temperature, moisture content, humidity, decrease rate due to drying, grain temperature, etc. exist, enter them.
- (18) Fire Fighting and Safety Devices
 - (a) Fire Fighting Device Enter automatic fire fighting device, portable fire extinguishers attached and the like.
 - (b) Safety Devices Divide into power source system, burner system, and conveyance system and enter the name of detecting device.
- (19) Others Enter the safety judgement number on the appliance conforming to the safety judgement.

Attached Table. Standard Form of Specifications for Circulation
Type Grain Dryers

- (1) Brand and Type _____
- (2) Common name _____
- (3) Manufacturer's name _____
- (4) Grain treating quantity Min. kg Max. kg
- (5) Required power

Class of electric motor		Division of single phase or three phases	Rated voltage V	Rated output kW
Required maximum power kW	At the time of standard equip- ment			
	At the time of optional equip- ment			

(6) Main dimensions

	At the time of operation	At the time of optional outfit or storing
Whole length	<u>mm</u> _____	<u>mm</u> _____
Whole width	<u>mm</u> _____	<u>mm</u> _____
Height of the body	<u>mm</u> _____	<u>mm</u> _____
Height of lift	<u>mm</u> _____	<u>mm</u> _____

- (7) Mass kg

- (8) Grain drying room and circulation and discharge
- (a) Form of drying room and number of drying layers _____
- (b) Sending method _____
- (c) Circulating speed control and discharging speed control _____
- (9) Blower for drying use
- (a) Form of blower _____
- (b) Blowing and suction method _____
- (c) Bore of blowing port or discharging port mm

- (d) Rotational frequency of blower min^{-1} {rpm} 50 Hz
_____ min^{-1} {rpm} 60 Hz

- (10) Burner
- (a) Form _____
- (b) Ignition method _____
- (c) Air quantity control _____
- (d) Maximum combustion quantity l/h

- (11) Fuel and fuel supplying apparatus
- (a) Fuel to be used _____
- (b) Supplying apparatus _____
- (c) Capacity of tank l

- (12) Conveyance Apparatus
- (a) Class of conveyer _____

(b)	Class of grain distribution equalizer	Existence	_____
(c)	Grain charging hopper	Height mm Size mm × mm	_____ l
		Height mm Size mm × mm	_____ l
(13)	Dust catcher	_____	
(14)	Accessories (optional parts)	_____	

(15)	Drying speed	_____%/h~_____%/h	
(16)	Charging time and discharging time		
(a)	Charging time	_____ min	
(b)	Discharging time	_____ min	
(17)	Operation control method	_____	

(18)	Fire fighting and safety devices		
(a)	Fire fighting device	_____	
(b)	Safety device	_____	

System	Names of devices
Power source system	
Burner system	
Conveyance system	

(19) Others

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